2300 Lake Elmo Drive
Billings, MT 59105
August 26, 2004

TO:

Environmental Quality Council
Director's Office, Dept. of Environmental Quality
Montana Fish, Wildlife & Parks

Director's Office	Wildlife Division
Resource Assessment	Design & Construction
Fisheries Division	Legal Unit
Parks Division	Lands Section
Regional Supervisors	Piscicide Committee

Montana Historical Society, State Preservation Office
Janet Ellis, Montana Audubon Council
Montana Wildlife Federation
Montana State Library
George Ochenski
Commissioner Dan Walker
Montana Environmental Information Center
U.S. Fish and Wildlife Service
American Fisheries Society, Montana Chapter
Yellowstone River Parks Association
Magic City Fly Fishers
Federation of Fly Fishers
Walleyes Unlimited, Billings Chapter
Montana Pike Masters, Billings Chapter
Adjacent Landowners

Ladies and Gentlemen:

The enclosed draft Environmental Assessment (EA) is submitted for your consideration. It was prepared for the proposed removal of introduced yellow perch from two private ponds along the Yellowstone River east of Columbus, MT

Any questions about this project should be directed to Jim Olsen (328-4636) or Jim Darling (247-2961). Comments should be addressed to the undersigned by August 31, 2004.

Sincerely,

Harvey E. Nyberg
Regional Supervisor
hnyberg@state.mt.us

DRAFT

Environmental Assessment for Yellow Perch Removal

Montana Department of Fish, Wildlife and Parks
2300 Lake Elmo Drive, Billings, MT 59105

Project: **Removal of introduced yellow perch from two private ponds along the Yellowstone River east of Columbus, MT.**

Division: Fisheries

I. DESCRIPTION OF PROPOSED ACTION

Yellow perch are present in two private ponds located at the eastern end of Flaherty Flat, east of Columbus (T3S R21E Sec5). The two ponds were created by partially excavating abandoned oxbow channels of the Yellowstone River. The ponds are apparently within the floodplain of the Yellowstone River, as high water events have led to the introduction of species of fish found in the Yellowstone such as carp, longnose suckers, white suckers, and possibly a few trout. The source of water for the two ponds is primarily ground water upwellings in the area. The flow rate into the ponds is minimal, but is sufficient to maintain the ponds at full pool. The upper pond is approximately 1.5 acres when full, with a maximum depth of approximately 8 ft. The second pond is longer and narrower with a similar maximum depth, but is approximately 2.5 surface acres. The ponds were not permitted for the stocking of fish and the source of the yellow perch is unknown. Montana Fish, Wildlife and Parks (FWP), in cooperation with the landowner, is proposing to chemically remove the perch from the ponds to prevent their spread into other nearby waters, including the Yellowstone River.

Chemical removal will occur according to the following steps: First, the upper pond will be lowered by temporarily breaching the small dam, using a mechanical pump to remove water. The discharged water will flow into the second pond approximately 200 ft to the east of the first. The first pond will be lowered as far as possible with the pump so that the groundwater inputs are exposed. At this low level, the volume of water will be calculated and the appropriate amount of rotenone to achieve a concentration of 5 parts per million (ppm) will be added to the pond to kill the fish present. The pond will then be allowed to naturally refill as the chemical detoxifies and dilutes from the ground water inputs. We anticipate being able to lower the pond until there is only a small pool of water left before poisoning. The fill time of the pond is unknown, but between dilution from the ground water and the natural breakdown of the chemical, there will be minimal risk of rotenone treated waters escaping the pond. Further, the second pond is located immediately downstream of the first and would capture any rotenone-treated waters before leaving the treatment area.

The second pond will be lowered like the first pond, either concurrent with the first or immediately following the addition of the rotenone to the first pond. Once lowered as far as possible, it too will be treated with rotenone at a concentration of 5 ppm. It is anticipated that through natural break down and dilution, rotenone will only be present in the water from 1-2 weeks. This time should be sufficient to prevent the discharge of rotenone-treated waters beyond

the two ponds. As a precaution, however, should the ponds fill faster than the rate of natural chemical breakdown, a potassium permanganate ($KmnO_4$) detoxification station will be on site at the outlet of the second pond. The rate of breakdown of the chemical will be monitored using rainbow trout from the Bluewater Springs State Hatchery placed in sentinel cages in the ponds. As soon as fish can survive 24 hours in the ponds, the levels of rotenone are negligible, and waters can be safely discharged into the Yellowstone River.

FWP has no intention of stocking or managing the two ponds associated with this project. The intent is to prevent the spread of yellow perch within the Yellowstone River drainage. The costs for performing this project will be shared between the landowner and FWP. FWP will supply the rotenone and personnel time to perform the project. The landowner will supply the funds for permitting the project through the Montana Department of Environmental Quality (308 permit) and for renting the equipment necessary to lower the ponds. The costs of the project are summarized in Table 1.

Table 1. Itemized costs (not including personnel time) of chemically removing yellow perch from the two ponds on Flaherty Flat:

Item	Cost
FWP	
Rotenone	$100
Equipment rental	$150
Landowner	
DEQ permit	$250
Equipment rental	$200
Total Project Costs	$800

II. IMPACTS OF THE PROPOSED ACTION

Please review the attached checklist. The impacts of this action are included in the Environmental Assessment checklist and the following text addresses the impacts.

A. Potential Impact on the Physical Environment

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			A1
2. Water quality, quantity & distribution			X			A2

3. Geology & soil quality, stability and moisture				X		
4. Vegetative cover, quantity & quality				X		
5. Aesthetics				X		
6. Air quality				X		
7. Unique, endangered, fragile or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		

B. Potential Impacts on the Human Environment

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & sate tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreation				X		

and wilderness activities						
8. Quantity & distribution of employment				X		
9. Distribution and density of population & housing				X		
10. Demands for government services				X		
11. Industrial and commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flow				X		

A. Impacts to the physical environment

A1. Terrestrial and Aquatic Life and Habitats

The intent of this project is to eradicate yellow perch from the two ponds through the use of the piscicide rotenone. The addition of the piscicide to the water will result in a temporary reduction in water quality that will result in a fish kill within the ponds. Rotenone does not affect terrestrial mammals, birds and other life that either drink treated waters or consume fish killed by rotenone. Rotenone does affect gilled aquatic organisms such as amphibians and insects; however, the impacts of rotenone use are generally temporary and these species quickly recolonize following treatment. No amphibians have been noted in the ponds, but to reduce potential impacts on these non-target organisms a survey will be conducted as the ponds are lowered. All amphibians encountered will be removed from the treatment area and released in similar habitat (e.g., a large spring/pond area near the treatment area). Carp, longnose suckers, white suckers and possibly trout are also present in the pond. To try and reduce the impacts on other fish species, a trap net will be placed in the pond to remove trout and native fishes and return them to the Yellowstone River. There will be temporary effects on aquatic habitat through the lowering of the ponds, which may affect amphibian, insect and other aquatic plants and animals. These effects should be minimal and will be mitigated through the timing of the treatment. By September there should be few juvenile (gilled) frogs or toads in the pond that may be affected by lowering the level of the pond.

A2. Water quality, quantity & distribution

A temporary reduction in surface water quality will result when the rotenone is added to the ponds. Lowering the ponds prior to treatment will mitigate these impacts and prevent treated waters from leaving the treatment area. Further, a detoxification station will be placed at the outlet of the second pond if the ponds fill and begin to discharge prior to the rotenone completely breaking down. The water quality will be monitored using rainbow trout placed in sentinel cages in the two ponds. Rotenone does not readily enter ground water because of its affinity to bind with soil and organic material and naturally break down. The thick layer of organic material on the bottom of both ponds should minimize the risk of rotenone entering the ground water.

III. Discussion of Reasonable Alternatives

1) The **"No Action" Alternative** would result in a higher possibility that the perch would spread to other backwater areas in the Yellowstone River and nearby streams and rivers. Yellow perch would not likely become abundant in the main Yellowstone River because they are not well suited to habitat in the river, but they may become abundant in backwater areas and oxbow lakes. The introduction of other non-native fishes, particularly percids, has had substantial impacts on native fish species communities in other areas. Backwater areas where the perch would likely be the most abundant are also rearing areas commonly used by native fishes in the Yellowstone River. The presence of perch in these areas would likely have substantial impacts on native fish communities through direct predation. If perch are not removed from the pond, they may escape these ponds during high water years and populate other areas in the Yellowstone Drainage.

2) **Mechanical removal** is another alternative to piscicide use, but it has limitations. Mechanical removal would consist of a combination of electrofishing and netting to try and remove perch from the pond. This method is inefficient at removing small fish, and it requires multiple removals through time to be effective at reducing fish numbers. Further, perch are very prolific and often can over-populate in ponds and lakes that lack its native predators. Mechanical removal could be combined with pond lowering (proposed action), but complete removal of yellow perch would still be difficult because of the small size of juvenile fish in the pond.

IV. Environmental Assessment Conclusion Section

1) Is an EIS required? No. This action is expected to be minor and beneficial.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana DEQ
List of all agencies and individuals who have been notified of this proposed transfer: Public notification via the State of Montana electronic bulletin board, direct mail to landowners on the stream.
Individuals or groups contributing to this EA: Jim Olsen FWP Biologist;
EA prepared by: Jim Olsen, Fisheries Biologist, Montana Fish, Wildlife & Parks
Date: August 16, 2004
Comments will be accepted until: September 17, 2004
Comments should be sent to: Jim Darling, Montana Department of Fish, Wildlife and Parks, 2300 Lake Elmo Drive, Billings, MT 59105

V. References

Finlayson, B. J., R. A. Schnick, R. L. Cailteux, L. DeMong, W. D. Horton, W. McClay, C. W. Thompson, and G. J. Tichacek. 2000. Rotenone use in fisheries management: administrative and technical guidelines manual. American Fisheries Society, Bethesda, Maryland.